

REMARKS

Reconsideration of this application as amended is respectfully requested.

In the Office Action, claims 1, 3, 6-10, 19, 20, 22-27, 29-34, and 36-77 were pending.

Claims 1, 3, 6-10, 19, 20, 22-27, 29-34, and 36-77 were rejected.

In this response, claims 42-77 have been canceled without prejudice. Claims 1, 3, 6-7, 19, 22-27, 29-34, and 36 have been amended. In addition, new claims 78-81 have been added. No new matter has been added.

Claims 1, 3, 6-9, 19-20, 22-27, 29-34, 36-40, 42-46, 48-52, 54-58, 60-64, 66-70, and 72-77 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kline et al. (U.S. Patent Number 5,812,527, hereinafter “Kline”), in view of Kilkki et al. (U.S. Patent Number 6,411,617, hereinafter “Kilkki”), further in view of Brueckheimer et al. (U.S. Patent Number 6,574,223, hereinafter “Brueckheimer”). Claims 10, 41, 47, 53, 59, 65, and 71 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kline, in view of Kilkki, further in view of Brueckheimer, and Ku et al. (U.S. Publication Number US2002/3385567, hereinafter “Ku”).

In view of foregoing amendments, it is respectfully submitted that the currently pending claims include limitations that are not disclosed or suggested by the cited references, individually or in combination. Specifically, independent claim 1 recites as follows:

1. A network switch comprising:
an asynchronous mesh;
ingress interfaces coupled to the asynchronous mesh, the ingress interfaces having an ingress scheduler to receive data from external sources and to selectively schedule and asynchronously transmit the data across the asynchronous mesh according to a first schedule; and
egress interfaces coupled to the asynchronous mesh, the egress interfaces having an egress scheduler to receive data from the asynchronous mesh and to schedule and transmit the data to external destinations according to a second schedule different than the first schedule, wherein the ingress scheduler performs scheduling and transmitting data across the

asynchronous mesh independent of the egress scheduler performing scheduling and transmitting data to the external destinations, wherein one or more of the N ingress interfaces segregates incoming data into queues based on a service class identifier.

(Emphasis added)

Independent claim 1 includes an asynchronous mesh to transfer data from ingress interfaces to egress interfaces. The ingress interfaces include an ingress scheduler to schedule and asynchronously transmit the data to the egress interfaces and the egress interfaces include an egress scheduler to schedule and transmit the data to the external destinations independently according to different schedules. The above limitations are absent from the cited references, individually or in combination.

Rather, Kline relies on a scheduler 280 and 208 located in the egress to transmit a request to the ingress in order to enable the ingress to transmit packets of data to the egress.

Specifically, Kline states:

“In general, the scheduling algorithm ensures that the QoS guarantees are met for all VCs of the many diverse service categories. Each cell cycle, the Scheduler 280 selects one of the active VCs, and generates a cell request 222 to the Ingress Cell Memory 206 of the appropriate Ingress Switch Port. The request is usually accepted, causing the Ingress Switch Port to read the requested ATM cell from the cell buffer of the addressed per-VC queue in Cell Memory 206 and send it to the Egress Switch Port, via the Switch Fabric 154. If the request is not accepted due to Switch Fabric 154 congestion (this can be designed to occur with very low probability, or with zero probability), then the Scheduler 280 will re-schedule the event and request the same cell again in the next cell cycle.”

(Kline, Fig. 6, col. 20, lines 43 to 54, emphasis added).

That is, the ingress of Kline only transmits data over to the egress upon receiving a cell request 222 from the egress. It is respectfully submitted that such transmissions are typically synchronous transmissions, rather than asynchronous transmissions. There is no scheduling performed within the ingress of Kline. Instead, the ingress of Kline relies on the egress scheduler in order to transmit data to the egress. It is respectfully submitted that Kline fails to

disclose an ingress scheduler (located within the ingress interfaces) that operates independent of an egress scheduler (located within the egress interfaces).

In contrast, the present invention as claimed includes an ingress to schedule and asynchronously transmit data to the egress using, for example, an ingress scheduler and an ingress buffer located in the ingress, and an egress scheduler and an egress buffer located in the egress, as recited in claim 3.

Although the Examiner contended that the egress of Kline includes an egress scheduler 280 and 208, there is no mention or suggestion in Kline that the ingress performs scheduling and asynchronously transmission of data, particularly, independent of the egress scheduler.

Given the structure of the Kline as discussed above (e.g., only rely on the egress scheduler), it appears that the ingress of Kline is unable to perform asynchronous transmissions because it lacks the mechanisms in the ingress to perform such actions.

It is respectfully submitted that Kilkki and Ku also fail to disclose or suggest the limitations set forth above. With respect to Ku, Ku was filed after the filing date of the present application. Thus, only the disclosure in the provisional application to which Ku claims the priority may be used as a reference against the present application. Nevertheless, it is respectfully submitted that Ku still fails to disclose or suggest the limitations set forth above.

Furthermore, there is no suggestion within the cited references to combine Kline with Kilkki and Ku. Even if they were combined, such a combination still lacks the limitations set forth above. Therefore, for the reasons discussed above, it is respectfully submitted that independent claim 1 is patentable over the cited references.

Similarly, independent claim 19 includes limitations similar to those recited in claim 1. Thus, for the reasons similar to those discussed above, independent claim 19 is patentable over the cited references.

Given that the rest of the claims depend from one of the above independent claims, at least for the reasons similar to those discussed above, it is respectfully submitted that the rest of the claims are patentable over the cited references.

In addition, with respect to claims 3 and 36, each ingress interface of the network switch further includes a plurality of ingress buffers to temporarily store data received from the external sources and each of the ingress buffers corresponds to each of the egress interfaces. Similarly, each egress interface further includes a plurality of egress buffers to temporarily store data received from the ingress interfaces and each of the egress buffers corresponds to each of the ingress interfaces. It is respectfully submitted that these limitations are absent from the cited references, individually or in combination.

Further, with respect to claims 78-80, each egress buffer of each egress interface further includes one or more queues and each of the queues corresponds to a distinctive service class. Each queue may have different priority and schedule and the egress scheduler schedules and transmits data from each of the queues to the external destinations according to different schedules associated with the respective queue. It is respectfully submitted that these limitations are also absent from the cited references.

Furthermore, with respect to claim 81, when an amount of data stored in a queue exceeds a predetermined threshold, the corresponding egress interface transmits a backpressure signal to the corresponding ingress interfaces to prevent further data having the service class of the queue from being transmitted. However, data of other service classes may be transmitted independently. It is respectfully submitted that these limitations are also absent from the cited references.

Therefore, in addition to those discussed with respect to their independent claims, for the reasons discussed above, these claims are independently patentable over the cited references.

In view of the foregoing, Applicant respectfully submits the present application is now in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call the undersigned attorney at (408) 720-8300.

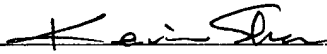
Please charge Deposit Account No. 02-2666 for any shortage of fees in connection with this response.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

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Kevin G. Shao
Attorney for Applicant
Reg. No. 45,095

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025-1026
(408) 720-8300